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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,593	07/28/2003	Joel C. Trusty	11111-43236	4634
35973 7590 05/01/2007 BINGHAM MCHALE LLP 2700 MARKET TOWER 10 WEST MARKET STREET INDIANAPOLIS, IN 46204-4900			EXAMINER DANIELS, MATTHEW J	
			ART UNIT 1732	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			NOTIFICATION DATE	
3 MONTHS			05/01/2007	
			DELIVERY MODE ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 05/01/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptodocket@binghammchale.com
mschantz@binghammchale.com

Office Action Summary	Application No. 10/628,593	Applicant(s) TRUSTY ET AL.	
	Examiner Matthew J. Daniels	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-42 is/are pending in the application.
4a) Of the above claim(s) 18-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8 February 2007 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Rejections set forth previously are withdrawn in favor of the following rejections which more suitably address the claimed invention.

3. **Claims 21-42** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rusk (USPN 3364630) in view of Kolberg (USPN 3355772). **As to Claim 21**, Rusk teaches a method for manufacturing an article that could be used to fulfill the intended use of a spindle liner for manipulating a workpiece on a machine, wherein the article has an inner diameter (Fig. 7, item 58), the method comprising:

Placing a core element within a tubular mold section (Fig. 7, item 58);

Securing the core element within the tubular mold section using a cap that fits at least partially in the tubular mold section, thereby defining an interior void of the mold (Fig. 7, item 60);

Introducing liner material in a molten state (see "liquid" at 4:58) into the interior of the mold until the interior void is substantially filled (3:51);

Allowing the liner to set up for an appropriate length of time to permit the material to cure to a sufficient state of hardness (4:25-36).

Rusk is silent to (a) the core element is slightly larger in cross section than the workpiece and the mold section has an inner dimension slightly larger than the inner diameter of the spindle, and (b) introducing liner material "through a fill hole".

However, these aspects of the invention would have been obvious for the following reasons:

(a) The article of Rusk is capable of fulfilling the intended use because it could be used to accommodate a workpiece (Fig. 7, item 58) and inherently fits into a chuck (3:57-65). Thus, the mold size and core size are the same or substantially the same as claimed. Rusk suggests that the inner diameter be sized such that holds a shaft (1:20-23 and 1:55-58) and shaped or sized in various ways (Figs. 1-5) which could be placed in a turning machine spindle.

(b) Kolberg teaches that it is conventional to use a fill hole (Fig. 1, item 10) as an alternative to the filling of an open mold as shown by Rusk (Fig. 7).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Kolberg into that of Rusk because Rusk suggests that it is desirable to provide high density articles (5:8-7) and shaped molds (3:62-69), and because

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the mold of Kolberg would provide the capability to inject material at higher pressures, achieving the higher density articles suggested by Rusk.

As to Claims 22 and 23, Rusk teaches polyurethane (6:1) and plastic (1:21). **As to Claims 24-27**, Rusk suggests core elements (Fig. 7, item 58) in circular, square, and hexagonal cross sectional shapes (Figs. 2, 3, 4, respectively). Although Rusk does not specifically teach an octagon core, in view of the other geometric core shapes suggested by Rusk, the octagonal shape would have been obvious as another geometric shaped cross section. **As to Claim 28**, this limitation appears to be drawn to a method of making an article that could be inserted into the article resulting from the process of Claim 21. Because there is no claimed relationship between Claim 28 and Claim 21 (no step of inserting or assembly, and the shape of the workpiece would not depend on the method of making), this limitation should be given little patentable weight. However, Rusk teaches a shaft upon which the article is placed (1:5-70), and it would have been obvious to fabricate spindles by extrusion. **As to Claim 29**, Rusk teaches that various shapes should be made (Figs. 3-5) using shaped molds (3:60-70). Rusk teaches that in at least some embodiments it is desirable to have flanges (Fig. 4, item 28, Fig. 3), and Kolberg provides shaped articles including flanges (Fig. 1, item 29). The flanges would provide the claimed intended use. **As to Claim 30**, Kolberg's mold provides the securing action (Fig. 1, items 20, 21), and also provides a flange element (last ring, item 29, is formed by the ends of the mold). **As to Claim 31**, Kolberg provides a fixed orientation in the interior of the mold by a pair of threaded pin elements disposed at opposite ends of the core element (Fig. 1, item 20).

As to Claim 32, Rusk teaches a method for manufacturing an article that could be used to fulfill the intended use of a spindle liner for manipulating a workpiece on a machine, wherein the spindle has an inner diameter (3:60), the method comprising:

Selecting a core element from among a plurality of core elements (See cores formed in Figs. 1-4),

Selecting a tubular mold section from among a number of molds (3:60-70, the molds having different shapes) where the mold section has an inner diameter that could be placed in a chuck (3:60), which is interpreted to be a spindle.

placing a core element within a tubular mold section (Fig. 7, item 58);

Securing the core element within the tubular mold section using a cap that fits at least partially in the tubular mold section, thereby defining an interior void of the mold (Fig. 7, item 60);

Introducing liner material in a molten state (see “liquid” at 4:58) into the interior of the mold until the interior void is substantially filled (3:51);

Allowing the liner to set up for an appropriate length of time to permit the material to cure to a sufficient state of hardness (4:25-36).

Rusk is silent to (a) the core element is slightly larger in cross section than the workpiece and the mold section has an inner dimension slightly larger than the inner diameter of the spindle, and (b) introducing liner material “through a fill hole”.

However, these aspects of the invention would have been obvious for the following reasons:

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- (a) The article of Rusk is capable of fulfilling the intended use because it could be used to accommodate a workpiece (Fig. 7, item 58) and inherently fits into a chuck (3:57-65). Thus, the mold size and core size are the same or substantially the same as claimed. Rusk suggests that the inner diameter be sized such that holds a shaft (1:20-23 and 1:55-58) and shaped or sized in various ways (Figs. 1-5) which could be placed in a turning machine chuck or spindle (3:60).
- (b) Kolberg teaches that it is conventional to use a fill hole (Fig. 1, item 10) as an alternative to the filling of an open mold as shown by Rusk (Fig. 7).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Kolberg into that of Rusk because Rusk suggests that it is desirable to provide high density articles (5:8-7) and shaped molds (3:62-69), and because the mold of Kolberg would provide the capability to inject material at higher pressures, achieving the higher density articles suggested by Rusk.

As to Claims 33 and 34, Rusk teaches polyurethane (6:1) and plastic (1:21). **As to Claims 35-38**, Rusk suggests core elements (Fig. 7, item 58) in circular, square, and hexagonal cross sectional shapes (Figs. 2, 3, 4, respectively). Although Rusk does not specifically teach an octagon core, in view of the other geometric core shapes suggested by Rusk, the octagonal shape would have been obvious as another geometric shaped cross section. **As to Claim 39**, this limitation appears to be drawn to a method of making an article that could be inserted into the article resulting from the process of Claim 21. Because there is no claimed relationship between Claim 28 and Claim 21 (no step of inserting or assembly, and the shape of the workpiece would not depend on the method of making), this limitation should be given little patentable weight. However, Rusk teaches a shaft upon which the article is placed (1:5-70), and it would have been

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obvious to fabricate spindles by extrusion. **As to Claim 40**, Rusk teaches that various shapes should be made (Figs. 3-5) using shaped molds (3:60-70). Rusk teaches that in at least some embodiments it is desirable to have flanges (Fig. 4, item 28, Fig. 3), and Kolberg provides shaped articles including flanges (Fig. 1, item 29). The flanges would provide the claimed intended use. **As to Claim 41**, Kolberg's mold provides the securing action (Fig. 1, items 20, 21), and also provides a flange element (last ring, item 29, is formed by the ends of the mold). **As to Claim 42**, Kolberg provides a fixed orientation in the interior of the mold by a pair of threaded pin elements disposed at opposite ends of the core element (Fig. 1, item 20).

Response to Arguments

4. Applicant's arguments filed 8 February 2007 have been fully considered but they are not persuasive or are moot in view of the new grounds of rejection above. The arguments appear to be on the following grounds:

- a) Argereu, Cohan, and Maxey do not teach the step of placing a core having a size slightly larger in cross section than the workpiece.
- b) The motivation provided for the combination fails in logic. Argereu focuses on disks, not rollers or liners. Maxey focuses on bushings between steel sleeves. The fact that the references are designed for very different products motivates one even less to combine these references.
- c) Cohan's disclosure merely shows the surface of a cavity that forms the outer surface of a roller, which is not a flange.
- d) Applicant has difficulty in interpreting the rejections of Claims 29, 30, and 31 in any meaningful manner.

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- e) Argereu teaches away from the size of the workpiece claimed.
- f) The combination is not suggested by the references. Irregularities would be more likely to hold the bar in place, which is the purpose of the Argereu device.
- g) Applicant disagrees that the method of making the workpiece does not affect patentability, and that some embodiments are described in the specification.
- h) Argereu teaches that the openings in the discs must be smaller than the workpiece.
- i) Cohan's item 62a is a sidewall of Cohan's mold that forms a rolling surface, not a flange.
- j) Applicant notes that the Office Action discounts certain arguments drawn to distinguishing the intended use, however, the first step of Claims 21 and 32 relate significantly to the workpiece.

5. These arguments are not persuasive for the following reasons:

- a, e, h) These arguments appear to be drawn to a particular size. However, the particular size of the center passage formed is insufficient to distinguish the claimed *method of making* from the prior art, which provides the same or substantially the same method of making. Changes in size are generally insufficient to establish patentability. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984). Each of the three references could perform the intended use of holding a workpiece and being held by a spindle.
- b, f) It is submitted that the motivation for the combination is valid. Argereu teaches an article, but is silent to its particular method of making. However, Cohan teaches that a method of making an article of the same general shape is known, and desirably avoids burrs on the outer

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diameter. Argereu suggests polyurethane (see the previous rejection), and it is conventional to cure polyurethane, as taught by Maxey.

c, d, i) The top and bottom portions of the mold of Cohan (items 74, 50) secure the core element (84) and fits at least partially into the tubular mold section, as claimed, and also use a threaded pin element (82) to secure the core. The outer surface of the wheel of Cohan (120) is nevertheless a flange even though it is not perpendicular to the axis of the bore.

g, j) The workpiece is noted in Claims 21, 28, 32, and 39. However, it should be noted that there is no step of removing the liner from the mold or subsequently assembling it with the workpiece. Claim limitations drawn to use of the article with the workpiece would be a different statutory class of invention. Any limitations drawn to the workpiece in claims 21, 28, 32, and 39 are preliminary steps which do not materially affect the *method of making* except to establish a particular size core. However, as noted above (*In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984)), the particular size of the interior passage or cavity would not distinguish the *method of making*.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Matthew J. Daniels', is positioned above the printed name.

Matthew J. Daniels

A.U. 1732

25 April 2007